

CLAIMS

1. A liquid crystal display for image display using a liquid crystal display panel, comprising:

5 a write-gray scale level determining means for determining write-gray scale level data for input image data that compensates an optical response characteristic of the liquid crystal display panel, in accordance with, at least, a combination of gray scale level transitions from a previous vertical display period to a current vertical display period;
10 and

an achievable gray scale level determining means for generating achievable gray scale level data for input image data after a lapse of one vertical display period of the liquid crystal display panel, in accordance with, at least, a
15 combination of gray scale level transitions from one vertical display period to the next,

wherein the write-gray scale level determining means determines the write-gray scale level data to be supplied to the liquid crystal display panel, based on achievable gray
20 scale level data of the liquid crystal display panel, corresponding to input image data at the previous vertical display period, output from the achievable gray scale level determining means and the input image data at the current vertical display period.

2. The liquid crystal display according to Claim 1, wherein the achievable gray scale level determining means, referring to a table memory that stores achievable gray scale level parameters representing achievable gray scale brightness
5 after the lapse of one vertical display period of the liquid crystal display panel, obtained from an actual measurement of the optical response characteristic of the liquid crystal display panel, determines the achievable gray scale level data after the lapse of one vertical display period of the
10 liquid crystal display panel, in accordance with the input image data.

3. The liquid crystal display according to Claim 2, wherein the table memory stores achievable gray scale level parameters
15 which are accessible by designating the achievable gray scale level data of the liquid crystal display panel corresponding to the image data at the previous vertical display period and the input image data at the current vertical display period.

20 4. The liquid crystal display according to Claim 1, wherein the achievable gray scale level determining means determines the achievable gray scale level data corresponding to the input image data after the lapse of one vertical display period of the liquid crystal display panel, using a function that
25 represents achievable gray scale brightness after the lapse

of one vertical display period of the liquid crystal display panel, obtained from an actual measurement of the optical response characteristic of the liquid crystal display panel.

5 5. The liquid crystal display according to any of Claims
1 to 4, further comprising a temperature detecting means for
detecting a device interior temperature, wherein the
achievable gray scale level determining means, based on the
detected device interior temperature, determines the
10 achievable gray scale level data for the input image data
after the lapse of one vertical display period of the liquid
crystal display panel.

15 6. The liquid crystal display according to Claim 5, wherein
the write-gray scale level determining means, based on the
detected device interior temperature, determines the
write-gray scale level data for compensating the optical
response characteristic of the liquid crystal display panel.

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